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NATIONAL ENERGY BOARD REASONS FOR DECISION

In the Matter of an Application under
the National Energy Board Act

of

CANADIAN NIAGARA POWER COMPANY, LIMITED

FEBRUARY 1980

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NATIONAL ENERGY BOARD

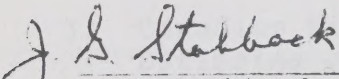
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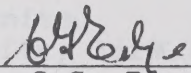
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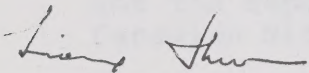
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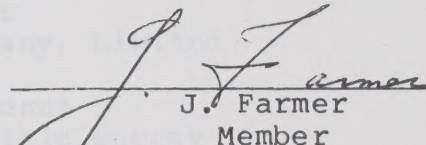
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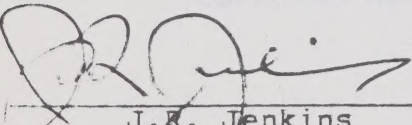
The Board, having received and considered the evidence, adduced and the submissions made at the hearing of this application, and the report of the Presiding Member, Mr. R.F. Brooks; made pursuant to Section 14 of the Act, and on the basis of that evidence, submissions and report, having satisfied itself with regard to it to be relevant, hereby adopts that report as the statement of its findings and its decision on the application.

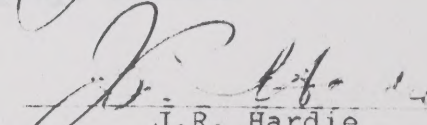

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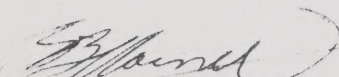

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REPORT OF THE PRESIDING MEMBER

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ABBREVIATIONS USED IN THE REPORTFor Scientific Units

kW.h	:	kilowatt-hour
GW.h	:	gigawatt-hour (1 000 000 kW.h)
kW	:	kilowatt
MW	:	megawatt (1 000 kW)
Hz	:	hertz

For Names

Applicant)	Canadian Niagara Power
Canadian Niagara)	Company, Limited
Board	:	National Energy Board
Hydro	:	Ontario Hydro
Niagara Mohawk	:	Niagara Mohawk Power Corporation
U.S.)	United States of America
U.S.A.)	

NATIONAL ENERGY BOARD

IN THE MATTER OF an application by Canadian Niagara Power Company, Limited for a licence or licences to export power under Part VI of the National Energy Board Act.

(File No. 1923-C10-5)

HEARD at Ottawa, Ontario on 30 January 1980

BEFORE

R.F. Brooks

as Presiding Member duly appointed
by the Board for that purpose in
accordance with Section 14 of the
National Energy Board Act

APPEARANCES:

J.H. Francis)	Canadian Niagara Power
E.P. Gueth, Jr.)	Company, Limited
Margery Hare)	Ontario Hydro
A.R. Macdonald)	National Energy Board

BACKGROUND

The Applicant, Canadian Niagara Power Company, Limited, was incorporated by a special act of the Legislature of the Province of Ontario in 1892. It is a wholly-owned subsidiary of Niagara Mohawk Power Corporation of the State of New York.

By agreement with the Niagara Parks Commission, the Applicant has the right to divert enough water from the Niagara River to generate 100 000 horsepower, that is 74.6 MW. Canadian Niagara owns a single generating station, the Rankine 25 Hz plant, built in the Niagara Park in 1905.

Canadian Niagara has an arrangement with Ontario Hydro whereby it can yield its share of the water to Hydro. Ontario Hydro can generate energy more efficiently, and under the arrangement transfers to Canadian Niagara the amount of energy which the water would have produced if used at Rankine, while retaining the extra energy for its own use.

Canadian Niagara sells 25 Hz power to a single industrial customer, Canadian Carborundum Limited, near Niagara Falls, Ontario, and also distributes 60 Hz power in a small service area around Fort Erie. The Applicant obtains 60 Hz power for its distribution system from Ontario Hydro in exchange for 25 Hz. A map showing the service area and the Rankine Generating Station is included as Appendix 1.

The Applicant has an agreement to sell up to 40 MW of firm power (60 Hz) to another subsidiary of Niagara Mohawk, St. Lawrence Power Company at Cornwall, Ontario. This power is wheeled through the U.S.A. to Cornwall under a licence held by St. Lawrence Power.

The Applicant has had contracts for the sale of power and energy to Niagara Mohawk and its predecessors for more than 50 years, and the maximum amount of firm power provided for in the current contract has remained unchanged since 1924. As the result of an application to the Board in 1975, Canadian Niagara currently holds two export licences, EL-83 and EL-84, for firm power and energy and interruptible energy respectively.

THE APPLICATION

In its application dated 10 July 1979, Canadian Niagara applied for two licences to export power and energy for a five-year term. Such exports would consist of:

- I. Firm energy up to 130 GW.h per annum, at a rate not to exceed the lesser of 35 062 kW or the amount remaining after the firm power requirements of the Applicant's customers in Canada have been met. This maximum compares with the limits of 30 000 kW and 260 GW.h from July 1975 to September 1976 and 20 000 kW and 175 GW.h from October 1976 to September 1979 allowed under Licence EL-83. This existing licence was due to expire on 30 September 1979, but was extended by order of the Board to 31 March 1980.
- II. Interruptible energy up to a maximum quantity of 250 GW.h in any consecutive twelve-month period. This maximum compares with the limit of 200 GW.h from July 1975 to September 1979 and 250 GW.h from October 1979 to 30 June 1980 allowed under Licence EL-84, which is due to expire on 30 June 1980.

The licence term originally requested in the application was five years from 1 October 1979 to 30 September 1984, but at the hearing the Applicant amended the application so that both licences would commence on the date of approval and terminate on 30 September 1984.

THE EVIDENCE

Essentially, the information contained in the application as well as the evidence presented at the hearing are similar to the evidence provided during the four previous hearings⁽¹⁾.

According to the evidence, the Applicant's power supply will remain unchanged at 74.6 MW. The forecast power surpluses are shown in Appendix 2. The energy, the generating capability, loads and resulting surplus are shown in Appendix 3.

The Applicant's witness stated that the requested 35 062 kW is the maximum quantity of firm power that could be exported according to the agreement with the Niagara Parks Commission. He recognized that the forecast maximum available for export would be much lower. In fact, because of a new contract with Canadian Carborundum which allows that company to increase its load from 8.5 to 12 MW, there may be no surplus in 1983 and 1984. On the other hand the Applicant claimed that the limit of 20 MW under the old licence was too low. For example, more firm power and energy could have been sold to Niagara Mohawk in 1979 if the limit had been higher. This could happen again if either the Canadian Carborundum or St. Lawrence loads were less than forecast, or reduced due to unforeseen circumstances.

(1) See Board's Reports to the Governor in Council dated November 1961, March 1965, March 1970 and May 1975.

The export agreement between Canadian Niagara and Niagara Mohawk, essentially the same for the past 10 years, includes a formula for calculating the amounts of firm power available for export. The power set aside for Niagara Mohawk in any month is that quantity found to be surplus to the Applicant's Canadian loads during the preceding month up to a maximum of 35 062 kW.

The Applicant stated that calculating the quantities of firm power available for export on a monthly basis allows larger exports and higher revenue than if the export quantity were established yearly. The agreement also includes a clause which provides for an abatement and an indemnity payable to Niagara Mohawk for failure to deliver power in accordance with the formula. Whenever the Applicant's Canadian load increases over the previous month, or whenever some of the firm power is delivered to Ontario Hydro as might be required by the licence conditions customarily imposed by the Board, Niagara Mohawk could claim under this indemnity provision. Niagara Mohawk gave an undertaking to the Board not to enforce this indemnity during the proposed licence period.

Evidence was given that there are advantages in being able to classify energy as firm rather than interruptible. Firm power brings a higher price and provides an assured market, whereas markets for interruptible energy are not always available. A witness for Niagara Mohawk

testified that his utility wished to continue to receive firm power. Ontario Hydro receives the first offer of interruptible energy from Canadian Niagara and accepts it when the price is attractive. When it is rejected by Ontario Hydro it is generally not attractive to Niagara Mohawk either. Niagara Mohawk is willing to pay a premium for firm power which is available at 100 per cent load factor during an entire month. Firm capacity purchases from Canadian Niagara were needed to meet Niagara Mohawk's capacity requirement in the past. However, the latter's witness stated that this is not expected to be the case during the proposed licence period; the exports would basically be an economy purchase.

The export agreement for 1980 between Canadian Niagara and Niagara Mohawk sets the monthly price for firm power at U.S. \$5.30 per kilowatt of demand plus 9.3 mills U.S. per kW.h for energy. At the expected 100 per cent monthly load factor of the export, this two-part rate corresponds to a composite price of 16.6 mills U.S. per kW.h. Interruptible energy would be priced at 14.2 mills U.S. per kW.h.

The agreement also contains a provision that the export prices may be adjusted if necessary to conform with the three export price criteria established by the Board⁽¹⁾.

(1) The Board's three price criteria appear as item (i), (ii) and (iii) of paragraph 6(2)(z) of the NEB Part VI Regulations.

Evidence was also provided on the relationship of the proposed initial prices of 16.6 and 14.2 mills U.S. per kW.h to the three criteria. Regarding the first criterion, that the price recovers the cost incurred in Canada, evidence was given that the Applicant's total production cost for energy was 9.35 mills per kW.h for 1979.

To demonstrate compliance with the second criterion, that the price not be lower than the charge to Canadians for equivalent service, the Applicant provided copies of power contracts with Canadian Carborundum and St. Lawrence Power Company. The table below summarizes the three rates for 1980:

	<u>Export</u>	<u>Canadian Carborundum</u>	<u>St. Lawrence Power Company</u>
	(U.S. currency)	(Canadian currency)	(Canadian currency)
Demand charge, \$/kilowatt/month	5.30	5.18	5.18
Energy charge, mills/kW.h	9.3	8.4	7.6

In a letter dated 18 January 1980, Canadian Niagara offered to Ontario Hydro the power and energy proposed for export. In its reply, Ontario Hydro declined the offer of firm power and energy for 1980 but requested that a similar offer be made for each subsequent year. Regarding the interruptible portion of the offer, Ontario Hydro assumed that as in the past priority would be given to the Canadian market.

Concerning the third criterion, that the price not be materially less than the least cost alternative to the purchaser, evidence was given that the only alternative supply available to Niagara Mohawk was from its own 60 Hz system which had an average cost of 17.0 mills per kilowatt-hour in 1979 based on the system mix of generation including hydro resources. The Applicant claimed that since Niagara Mohawk can provide its requirements from its own system and considers the firm export as an economy purchase, the export must be treated as such. Consequently, an economy price would be based on the average thermal generation cost to Niagara Mohawk which was 22.46 mills for kW.h in 1979 and the average production cost to Canadian Niagara which was 9.35 mills or if converted to U.S. currency approximately 8.06 mills; by a split-saving formula the price would have been 15.9 mills per kW.h in 1979. This is lower than the proposed 16.6 mills per kW.h in U.S. currency for the proposed export in 1980.

Regarding environmental considerations, the Applicant contended that since its power supply for the export is from existing hydroelectric generating facilities the export would have no environmental impact.

INTERVENTIONS

Ontario Hydro filed a submission stating that its interest in the application resulted from its being the largest utility in Ontario, supplying over ninety per cent of the Province's electric power. Ontario Hydro did not oppose the application, provided the Canadian market continued to have the same protection afforded to it by the conditions in the expiring Licences EL-83 and EL-84.

RECOMMENDED DISPOSITION

As Presiding Member appointed by the National Energy Board under Section 14 of the Act, I have given careful consideration to all the evidence and submissions presented to me concerning this application, taking particular note of any new considerations arising since the Applicant's existing licences were issued. Having satisfied myself on all matters which appear to me to be relevant I recommend that the Board grant the application.

Appendices 2 and 3 demonstrate that after the needs of the Applicant's system and that of St. Lawrence are satisfied power and energy will be surplus to the requirements of the Applicant's system. The question of whether these quantities will be surplus to other Canadian requirements hinges on whether they are needed by interconnected Canadian systems. The only Canadian utility that is directly interconnected with Canadian Niagara is Ontario Hydro, which in its letter of 21 January 1980 to the Applicant and in its intervention, requested that it be offered the firm power annually. A licence condition to this effect would ensure that any firm exports would be surplus to Canadian requirements.

In reviewing the evidence in this application, I have noted that the power which the Board is being asked to license as a firm export is becoming gradually less firm in quality. The evidence shows that in most of the months,

except for the summer months of 1980 and 1981, and the fall of 1982, there would be no surplus power available for export. Nevertheless, in order to permit the Applicant to make additional revenues from firm power exports at times when there could be surplus available, I recommend that the requested limit of 35 062 kW of firm power be granted. The corresponding maximum annual energy quantity should be 130 GW.h as requested.

As for interruptible energy exports, under the Board's usual licence conditions any interconnected Canadian utility can preempt the export energy at any time merely by meeting the export price. Canadian Niagara has been exporting this type of energy under the existing licence, interrupting it whenever called upon to do so by Ontario Hydro. There is no reason to doubt that Canadian Niagara will have surpluses of interruptible energy available and the limit of 250 GW.h is reasonable.

Subject to the qualifications set out in the preceding paragraphs and to the licence conditions that would apply concerning the periodic reoffering of the firm power in Canada, I am satisfied that the quantities of power and energy proposed for export will be surplus to foreseeable Canadian requirements.

Turning now to the question of price, the proposed initial export price of the firm power, effectively 16.6 mills

U.S. per kW.h, and that of the interruptible energy at 14.2 mills U.S., meet the Board's three pricing criteria. Firstly, they are greater than Canadian Niagara's production cost. Secondly, they are higher than even the price for firm power of superior quality sold by the Applicant to Canadian Carborundum and St. Lawrence Power Company. Thirdly, the evidence shows that they are higher than would be received under a split-saving formula such as is commonly used for economy energy sales.

In concluding that the price for firm power is acceptable, I have taken into account the fact that there is an excess capacity situation on both the Ontario Hydro and Niagara Mohawk systems; the latter's witness testified that the excess capacity would likely continue in the Niagara Mohawk area throughout the proposed licence term.

The Agreement provides that the export price may be raised, as has been done in the past, whenever such action is needed to ensure that the price continues to meet the Board's three criteria. To enable the Board to monitor this provision, the Applicant should be required to submit annually a proposed price which, once approved by the Board, would become the minimum export price for the succeeding year.

Subject to the arrangements outlined above, I am satisfied that the prices for the power proposed for export will be just and reasonable in relation to the public interest.

I find the indemnity clause in the agreement inconsistent with the requirement that power proposed to be exported be surplus to Canadian needs, but I am satisfied with the undertaking given by Niagara Mohawk that it would not invoke this clause during the term of the proposed licence.

I have also reviewed all other considerations that appear to me to be relevant, and have satisfied myself that this export would be in the public interest, subject to the needs of Ontario Hydro being met by appropriate licence conditions.

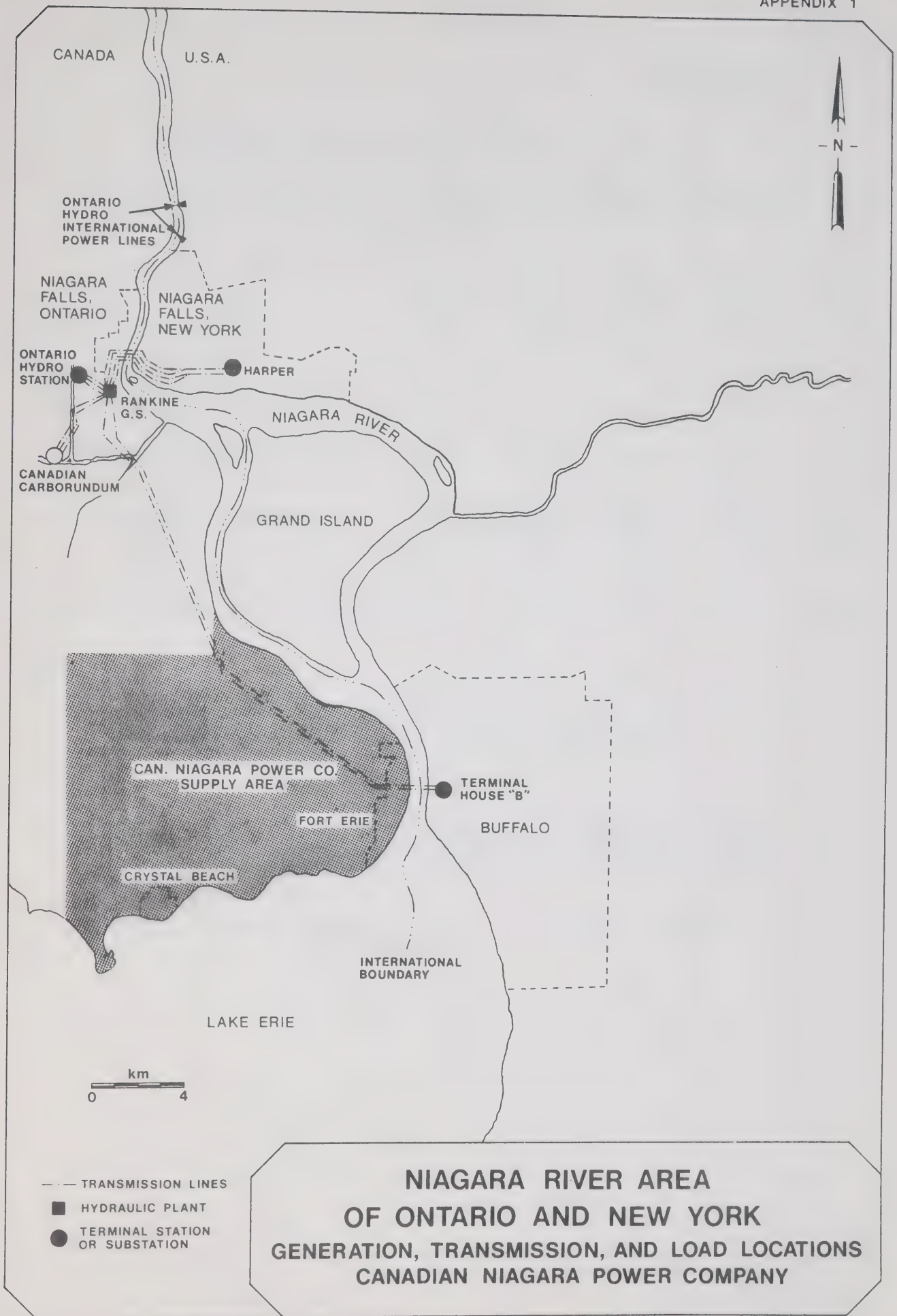
Accordingly, I recommend to the Board that it grant Canadian Niagara two export licences to extend to 30 September 1984. Appendices 4 and 5 set out the terms and conditions appropriate for these two licences.

I submit this report to the National Energy Board in accordance with Section 14 of the Act. I respectfully recommend that it be adopted as the Board's own findings and decision on the application, as allowed under the said section.



R.F. Brooks
Presiding Member

Ottawa, Canada.
February 1980



CANADIAN NIAGARA POWER COMPANY, LIMITEDESTIMATES OF CAPACITY, DEMAND AND POSSIBLE SURPLUS

(megawatts)

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Generating Capacity	74.6	74.6	74.6	74.6	74.6
Firm Demands ⁽¹⁾					
Distribution System ⁽²⁾	28.4	29.8	27.4	32.8	34.4
Canadian Carborundum ⁽³⁾	8.5	8.5	8.5	8.5	8.5
St. Lawrence Power Co.	<u>25.0</u>	<u>30.0</u>	<u>35.0</u>	<u>33.0</u>	<u>31.0</u>
Total	61.9	68.3	70.9	74.3	73.9
Monthly surplus for export ⁽⁴⁾	12.7	6.3	3.7	0.3	0.7

Notes

1. Minimum coincident demand which occurs in June for the year 1980-81-83 and 84, and in October for 1982.
2. Including losses.
3. The figures are shown as provided by Canadian Niagara, not taking into account the new agreement with Canadian Carborundum increasing the delivery of power from 8.5 MW to 12.0 MW.
4. At the time of minimum sales to Canadian customers.

CANADIAN NIAGARA POWER COMPANY, LIMITEDESTIMATES OF ANNUAL ENERGY CAPABILITY, FIRM LOADS AND SURPLUS

	(gigawatt-hours)				
	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Generating Capability ⁽¹⁾	620	628	628	628	630
Firm Energy Loads					
Distribution System	173	177	182	187	191
Canadian Carborundum ⁽²⁾	63	63	63	63	63
St. Lawrence Power Co.	<u>172</u>	<u>184</u>	<u>186</u>	<u>180</u>	<u>172</u>
Total	408	424	431	430	426
Annual surplus energy for export	222	204	198	198	204

Notes

1. 74.6 MW at 98% Capacity Factor minus 12 GW.h for station service.
2. The figures are shown as provided by Canadian Niagara, not taking into account the new agreement with Canadian Carborundum increasing the delivery of power from 8.5 MW to 12.0 MW.

TERMS AND CONDITIONS OF LICENCE FOR THE EXPORT
OF FIRM POWER

1. The term of this licence shall commence on the date of the approval of this licence by the Governor in Council and shall end on the 30th day of September 1984.
2. The class of inter-utility export transfer authorized hereunder is a sale transfer of monthly blocks of firm power.
3. The power to be exported hereunder shall be transmitted over the international power lines of the Licensee for which the Board has issued Certificates of Public Convenience and Necessity numbered EC-22 and EC-23, or over any of the international power lines of Ontario Hydro.
4. Subject to the other conditions of this licence, the quantity of power that may be exported hereunder shall not exceed the lesser of
 - (a) 35 062 kilowatts; or
 - (b) the amount which remains after the monthly firm power requirements of all the Licensee's customers in Canada have been met.
5. Subject to the other conditions of this licence, the quantity of energy that may be exported hereunder shall not exceed 130 gigawatt-hours in any consecutive twelve-month period during the term of this licence.
6. As a tolerance, the Licensee may export power at a rate momentarily in excess of that set forth in Condition 4 if such excess is caused by electrical short-circuit, the inability to control precisely the rate of power flow, or other circumstances beyond the Licensee's control.
7. The price to be charged by the Licensee for energy exported hereunder, unless otherwise approved by the Board, shall not be less than the greater of
 - (a) the price prescribed in Article FOURTH of the agreement dated 15 November 1979 between the Licensee and Niagara Mohawk Power Corporation; or
 - (b) the price as determined in accordance with Article TWELFTH of the agreement described in subcondition 7(a).

8. (1) The Licensee shall, on or before the 1st day of October in each year comprised in the term of this licence, or on or before such later date as the Board upon the application of the Licensee may fix, submit to the Board for its approval a statement of the export price proposed to be charged for the next succeeding calendar year, together with a detailed statement demonstrating that such price complies with Condition 7.
- (2) The price specified in subcondition (1), upon being approved by the Board, shall be the minimum export price for power sold under this Licence throughout the next succeeding calendar year, unless otherwise directed by the Board.
9. (1) The Licensee shall, on or before the 1st day of December in each year comprised in the term of this licence, offer to Ontario Hydro the firm power to be exported in the next succeeding calendar year upon the same terms and conditions as the Licensee proposes to export it.
- (2) The Licensee shall, at least 30 days prior to any change in the export price during each calendar year comprised in the term of this licence, other than a change described in subcondition (1), offer to Ontario Hydro the firm power that would otherwise be offered for export during the remainder of that calendar year upon the same terms and conditions as the Licensee proposes to export it.
10. The Licensee shall not commit power for export hereunder for the time periods specified in Condition 9 unless Ontario Hydro, in respect of each such offer, either
 - (a) refuses such offer, or
 - (b) fails to accept such offer within 30 days of the receipt thereof.
11. The Licensee shall not commit power for export hereunder for any period in excess of either
 - (a) the next succeeding calendar year, where an offer described in subcondition 9(1) is not accepted by Ontario Hydro;
or
 - (b) the remainder of the calendar year in which an offer described in subcondition 9(2) is not accepted by Ontario Hydro.

12. The Licensee, in respect of each offer described in Condition 9, shall forthwith file with the Board a copy of
 - (a) the offer, and
 - (b) the reply thereto by Ontario Hydro, or a statement that Ontario Hydro has not accepted the offer within 30 days of the receipt thereof.
13. The Licensee shall not, without the prior approval of the Board, amend, enter into any agreement in substitution for, or in addition to, or terminate, the agreement referred to in Condition 7.
14. The Licensee shall forthwith in writing inform the Board in the event of any change in
 - (a) the agreement of 31 December 1979 between the Licensee and Canadian Carborundum Company Limited, or
 - (b) the agreement of 15 November 1979 between the Licensee and St. Lawrence Power Company.
15. The Licensee shall, within 15 days after the end of each month comprised in the term of this licence, file with the Board a report in such form and detail as the Board may specify, setting forth for each such month
 - (a) the quantities of electric power and energy exported hereunder, and
 - (b) the resulting revenue.

TERMS AND CONDITIONS OF LICENCE FOR THE

EXPORT OF INTERRUPTIBLE ENERGY

1. The term of this licence shall commence on the date of the approval of this licence by the Governor in Council and shall end on the 30th day of September 1984.
2. The classes of inter-utility export transfer authorized hereunder are sale and exchange transfers of interruptible energy.
3. The energy to be exported hereunder shall be transmitted over the international power lines of the Licensee for which the Board has issued Certificates of Public Convenience and Necessity numbered EC-22 and EC-23, or over any of the international power lines of Ontario Hydro.
4. The quantity of energy that may be exported hereunder shall not exceed 250 gigawatt-hours in any consecutive twelve-month period during the term of this licence.
5. The Licensee shall not export energy hereunder unless it is surplus to the firm energy requirements of economically accessible Canadian markets at the time it is exported.
6. The Licensee shall interrupt or reduce the export of energy hereunder whenever and to whatever extent such energy is required to supply
 - (a) any firm load within Canada, or
 - (b) any Canadian electrical utility willing to buy part or all of the energy at the same price as that of the export, adjusted for differences in cost of delivery.
7. The price to be charged by the Licensee for energy exported hereunder, unless otherwise approved by the Board, shall not be less than the greater of
 - (a) the price prescribed in Article FOURTH, sub-paragraph 3, of the agreement dated 15 November 1979 between the Licensee and Niagara Mohawk Power Corporation; or
 - (b) the price as determined in accordance with Article TWELFTH of the agreement described in subcondition 7(a).
8. The Licensee shall not, without the prior approval of the Board, amend, enter into any agreement in substitution for or in addition to, or terminate, the agreement referred to in Condition 7.

9. (1) The Licensee shall, on or before the 1st day of October in each year comprised in the term of this licence, or on or before such later date as the Board upon the application of the Licensee may fix, submit to the Board for its approval a statement of the export price proposed to be charged for the next succeeding calendar year, together with a detailed statement demonstrating that such price complies with Condition 7.
- (2) The price specified in subcondition (1), upon being approved by the Board, shall be the minimum export price for power sold under this licence throughout the next succeeding calendar year, unless otherwise directed by the Board.
10. The Licensee, within 15 days after the end of each month comprised in the term of this licence, shall file with the Board a report in such form and detail as the Board may specify, setting forth for each such month
- (a) the quantity of energy exported hereunder, and
 - (b) the resulting revenue.

